RAW SEQUENCE LISTING   DATE: 12/11/2001
PATENT APPLICATION: US/10/003,035 TIME: 11:47:43

Input Set : **A:\Genphar.712.txt**
Output Set: **N:\CRF3\12112001\I003035.raw** **ENTERED**

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      3 <110> APPLICANT: Wang, Danher
      5 <120> TITLE OF INVENTION: GENETIC VACCINE AGAINST HUMAN IMMUNODEFICIENCY VIRUS
      7 <130> FILE REFERENCE: 22488-712
C-->  9 <140> CURRENT APPLICATION NUMBER: US/10/003,035
C-->  9 <141> CURRENT FILING DATE: 2001-11-01
      9 <150> PRIOR APPLICATION NUMBER: 09/585,599
     10 <151> PRIOR FILING DATE: 2000-06-02
     12 <150> PRIOR APPLICATION NUMBER: PCT/US01/18238
     13 <151> PRIOR FILING DATE: 2001-06-04
     15 <160> NUMBER OF SEQ ID NOS: 75
     17 <170> SOFTWARE: PatentIn version 3.1
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     20 <211> LENGTH: 7
     21 <212> TYPE: DNA
     22 <213> ORGANISM: Ebola virus
     24 <400> SEQUENCE: 1
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     28 <210> SEQ ID NO: 2
     29 <211> LENGTH: 7
     30 <212> TYPE: RNA
     31 <213> ORGANISM: Ebola virus
     33 <400> SEQUENCE: 2
     34 uuuuuuu                                              7
     37 <210> SEQ ID NO: 3
     38 <211> LENGTH: 8
     39 <212> TYPE: RNA
     40 <213> ORGANISM: Artificial sequence
     42 <220> FEATURE:
     43 <223> OTHER INFORMATION: Modified RNA editing site
     45 <400> SEQUENCE: 3
     46 uucuucuu                                             8
     49 <210> SEQ ID NO: 4
     50 <211> LENGTH: 7
     51 <212> TYPE: DNA
     52 <213> ORGANISM: Ebola virus
     54 <400> SEQUENCE: 4
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     60 <212> TYPE: DNA
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     63 <220> FEATURE:
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     66 <400> SEQUENCE: 5
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     70 <210> SEQ ID NO: 6
     71 <211> LENGTH: 6
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73 <213> ORGANISM: Ebola virus
75 <400> SEQUENCE: 6
76 uuuuuu                                                        6
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81 <212> TYPE: RNA
82 <213> ORGANISM: Artificial sequence
84 <220> FEATURE:
85 <223> OTHER INFORMATION: Modified RNA editing site
87 <400> SEQUENCE: 7
88 uucuuc                                                        6
91 <210> SEQ ID NO: 8
92 <211> LENGTH: 6
93 <212> TYPE: DNA
94 <213> ORGANISM: Artificial sequence
96 <220> FEATURE:
97 <223> OTHER INFORMATION: DNA of modified RNA editing site
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100 ttcttc                                                       6
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104 <211> LENGTH: 21
105 <212> TYPE: PRT
106 <213> ORGANISM: Homo sapiens
108 <400> SEQUENCE: 9
110 Ser Trp Leu Leu Leu Leu Leu Leu Ser Leu Ser Leu Leu Gln Ala Thr
111 1               5                   10                  15
114 Asp Phe Met Ser Leu
115             20
118 <210> SEQ ID NO: 10
119 <211> LENGTH: 5
120 <212> TYPE: PRT
121 <213> ORGANISM: Ebola virus
123 <400> SEQUENCE: 10
125 Arg Arg Thr Arg Arg
126 1               5
129 <210> SEQ ID NO: 11
130 <211> LENGTH: 4
131 <212> TYPE: PRT
132 <213> ORGANISM: Human immunodeficiency virus type 1
134 <400> SEQUENCE: 11
136 Arg Glu Lys Arg
137 1
140 <210> SEQ ID NO: 12
141 <211> LENGTH: 9
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143 <213> ORGANISM: Artificial sequence
145 <220> FEATURE:
146 <223> OTHER INFORMATION: DNA of GAG site
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149 ggagctggt                                                              9
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153 <211> LENGTH: 3
154 <212> TYPE: PRT
155 <213> ORGANISM: Artificial sequence
157 <220> FEATURE:
158 <223> OTHER INFORMATION: GAG site
160 <400> SEQUENCE: 13
162 Gly Ala Gly
163 1
166 <210> SEQ ID NO: 14
167 <211> LENGTH: 3157
168 <212> TYPE: DNA
169 <213> ORGANISM: Artificial sequence
171 <220> FEATURE:
172 <223> OTHER INFORMATION: Env/Tat/Rev
174 <400> SEQUENCE: 14
175 gaattctgca acaactgctg tttatccatt ttcagaattg ggtgtcgaca tagcagaata   60
177 ggcgttactc gacagaggag agcaagaaat ggagccagta gatcctagac tagagccctg  120
179 gaagcatcca ggaagtcagc ctaaaactgc ttgtaccaat tgctattgta aaaagtgttg  180
181 ctttcattgc caagtttgtt tcataacaaa agccttaggc atctcctatg gcaggaagaa  240
183 gcggagacag cgacgaagac ctcctcaagg cagtcagact catcaagttt ctctatcaaa  300
185 gcagtaagta gtacatgtaa tgcaacctat acaaatagca atagtagcat tagtagtagc  360
187 aataataata gcaatagttg tgtggtccat agtaatcata gaatatagga aaatattaag  420
189 acaaagaaaa atagacaggt taattgatag actaatagaa agagcagaag acagtggcaa  480
191 tgagagtgaa ggagaaatat cagcacttgt ggagatgggg gtggagatgg ggcaccatgc  540
193 tccttgggat gttgatgatc tgtagtgcta cagaaaaatt gtgggtcaca gtctattatg  600
195 gggtacctgt gtggaaggaa gcaaccacca ctctattttg tgcatcagat gctaaagcat  660
197 atgatacaga ggtacataat gtttgggcca cacatgcctg tgtacccaca gaccccaacc  720
199 cacaagaagt agtattggta aatgtgacag aaaattttaa catgtggaaa aatgacatgg  780
201 tagaacagat gcatgaggat ataatcagtt tatgggatca aagcctaaag ccatgtgtaa  840
203 aattaacccc actctgtgtt agtttaaagt gcactgattt gaagaatgat actaatacca  900
205 atagtagtag cgggagaatg ataatggaga aaggagagat aaaaaactgc tctttcaata  960
207 tcagcacaag cataagaggt aaggtgcaga agaatatgc atttttttat aaacttgata 1020
209 taataccaat agataatgat actaccagct atacgttgac aagttgtaac acctcagtca 1080
211 ttacacaggc ctgtccaaag gtatcctttg agccaattcc catacattat tgtgccccgg 1140
213 ctggttttgc gattctaaaa tgtaataata agacgttcaa tggaacagga ccatgtacaa 1200
215 atgtcagcac agtacaatgt acacatggaa ttaggccagt agtatcaact caactgctgt 1260
217 taaatggcag tctggcagaa gaagaggtag taattagatc tgccaatttc acagacaatg 1320
219 ctaaaaccat aatagtacag ctgaaccaat ctgtagaaat taattgtaca agacccaaca 1380
221 acaatacaag aaaaagtatc cgtatccaga gaggaccagg gagagcattt gttacaatag 1440
223 gaaaaatagg aaatatgaga caagcacatt gtaacattag tagagcaaaa tggaataaca 1500
225 ctttaaaaca gatagatagc aaattaagag aacaatttgg aaataataaa acaataatct 1560
227 ttaagcagtc ctcaggaggg gacccagaaa ttgtaacgca cagtttttaat tgtggagggg 1620
229 aatttttcta ctgtaattca acacaactgt ttaatagtac ttggtttaat agtacttgga 1680
231 gtactaaagg gtcaaataac actgaaggaa gtgacacaat caccctccca tgcagaataa 1740
233 aacaaattat aaacatgtgg caggaagtag gaaaagcaat gtatgcccct cccatcagtg 1800
235 gacaaattag atgttcatca aatattacag ggctgctatt aacaagagat ggtggtaata 1860
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237 gcaacaatga gtccgagatc ttcagacctg gaggaggaga tatgagggac aattggagaa    1920
239 gtgaattata taaatataaa gtagtaaaaa ttgaaccatt aggagtagca cccaccaagg    1980
241 caaagagaag agtggtgcag agagaaaaaa gagcagtggg aataggagct ttgttccttg    2040
243 ggttcttggg agcagcagga agcactatgg gcgcagcgtc aatgacgctg acggtacagg    2100
245 ccagacaatt attgtctggt atagtgcagc agcagaacaa tttgctgagg gctattgagg    2160
247 cgcaacagca tctgttgcaa ctcacagtct ggggcatcaa gcagctccag gcaagaatcc    2220
249 tggctgtgga aagataccta aaggatcaac agctcctggg gatttggggt tgctctggaa    2280
251 aactcatttg caccactgct gtgccttgga atgctagttg gagtaataaa tctctggaac    2340
253 agatttggaa taacatgacc tggatggagt gggacagaga aattaacaat tacacaagct    2400
255 taatacactc cttaattgaa gaatcgcaaa accagcaaga aaagaatgaa caagaattat    2460
257 tggaattaga taaatgggca agtttgtgga attggtttaa cataacaaat tggctgtggt    2520
259 atataaaatt attcataatg atagtaggag gcttggtagg tttaagaata gttttttgctg    2580
261 tactttctgt agtgaataga gttaggcagg gatattcacc attatcgttt cagacccacc    2640
263 tcccaatccc gaggggaccc gacaggcccg aaggaataga agaagaaggt ggagagagag    2700
265 acagagacag atccattcga ttagtgaacg gatccttagc acttatctgg gacgatctgc    2760
267 ggagcctgtg cctcttcagc taccaccgct tgagagactt actcttgatt gtaacgagga    2820
269 ttgtggaact tctgggacgc agggggtggg aagccctcaa atattggtgg aatctcctac    2880
271 agtattggag tcaggagcta aagaatagtg ctgttagctt gctcaatgcc acagctatag    2940
273 cagtagctga ggggacagat agggttatag aagtagtaca aggagcttat agagctattc    3000
275 gccacatacc tagaagaata agacagggct tggaaaggat tttgctataa gatgggtggc    3060
277 aagtggtcaa aaagtagtgt ggttggatgg cctgctgtaa gggaaagaat gagacgagct    3120
279 gagccagcag cagatggggt gggagcagca tctcgag                             3157
282 <210> SEQ ID NO: 15
283 <211> LENGTH: 508
284 <212> TYPE: DNA
285 <213> ORGANISM: Artificial sequence
287 <220> FEATURE:
288 <223> OTHER INFORMATION: Modified IL-2
290 <400> SEQUENCE: 15
291 tcactctctt taatcactac tcacagtaac ctcaactcct gccacaatgt acaggatgca      60
293 actcctgtct tgcattgcac taagtcttgc acttgtcaca aacagtgcac ctacttcaag     120
295 ttctacaaag aaaacacagc tacaactgga gcatttactg ctggatttac agatgatttt     180
297 gaatggaatt aataattaca agaatcccaa actcaccagg atgctcacat ttaagtttta     240
299 catgcccaag aaggccacag aactgaaaca tcttcagtgt cttgaagaag aactcaaacc     300
301 tctggaggaa gtgctaaatt tagctcaaag caaaaacttt cacttaagac ccagggactt     360
303 aatcagcaat atcaacgtaa tagttctgga actaaaggga tctgaaacaa cattcatgtg     420
305 tgaatatgct gatgagacag caaccattgt agaattctg aacagatgga ttaccttttg      480
307 tcaaagcatc atctcaacac taacttga                                        508
310 <210> SEQ ID NO: 16
311 <211> LENGTH: 2280
312 <212> TYPE: DNA
313 <213> ORGANISM: Artificial sequence
315 <220> FEATURE:
316 <223> OTHER INFORMATION: Modified Env
318 <400> SEQUENCE: 16
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321 tggggcacca tgctccttgg gatgttgatg atctgtagtg ctacagaaaa attgtgggtc     120
323 acagtctatt atgggtacc tgtgtggaag gaagcaacca ccactctatt ttgtgcatca     180
325 gatgctaaag catatgatac agaggtacat aatgtttggg ccacacatgc ctgtgtaccc     240
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327 acagacccca acccacaaga agtagtattg gtaaatgtga cagaaaattt taacatgtgg   300
329 aaaaatgaca tggtagaaca gatgcatgag gatataatca gtttatggga tcaaagccta   360
331 aagccatgtg taaaattaac cccactctgt gttagtttaa agtgcactga tttgaagaat   420
333 gatactaata ccaatagtag tagcgggaga atgataatgg agaaaggaga gataaaaaac   480
335 tgctctttca atatcagcac aagcataaga ggtaaggtgc agaaagaata tgcatttttt   540
337 tataaacttg atataatacc aatagataat gatactacca gctatacgtt gacaagttgt   600
339 aacacctcag tcattacaca ggcctgtcca aaggtatcct ttgagccaat tcccatacat   660
341 tattgtgccc cggctggttt tgcgattcta aaatgtaata ataagacgtt caatggaaca   720
343 ggaccatgta caaatgtcag cacagtacaa tgtacacatg gaattaggcc agtagtatca   780
345 actcaactgc tgttaaatgg cagtctggca gaagaagagg tagtaattag atctgccaat   840
347 ttcacagaca atgctaaaac cataatagta cagctgaacc aatctgtaga aattaattgt   900
349 acaagaccca acaacaatac aagaaaaagt atccgtatcc agagaggacc agggagagca   960
351 tttgttacaa taggaaaaat aggaaatatg agacaagcac attgtaacat tagtagagca  1020
353 aaatggaata acacttaaa acagatagat agcaaattaa gagaacaatt tggaaataat  1080
355 aaaacaataa tctttaagca gtcctcagga ggggacccag aaaattgtaac gcacagtttt  1140
357 aattgtggag gggaattttt ctactgtaat tcaacacaac tgtttaatag tacttggttt  1200
359 aatagtactt ggagtactaa agggtcaaat aacactgaag gaagtgacac aatcaccctc  1260
361 ccatgcagaa taaaacaaat tataaacatg tggcaggaag taggaaaagc aatgtatgcc  1320
363 cctcccatca gtggacaaat tagatgttca tcaaatatta cagggctgct attaacaaga  1380
365 gatggtggta atagcaacaa tgagtccgag atcttcagac ctggaggagg agatatgagg  1440
367 gacaattgga gaagtgaatt atataaatat aaagtagtaa aaattgaacc attaggagta  1500
369 gcacccacca aggcaaagag aagagtggtg cagactagtg cagtgggaat aggagctttg  1560
371 ttccttgggt tcttgggagc agcaggaagc actatgggcg cagcgtcaat gacgctgacg  1620
373 gtacaggcca gacaattatt gtctggtata gtgcagcagc agaacaattt gctgagggct  1680
375 attgaggcgc aacagcatct gttgcaactc acagtctggg gcatcaagca gctccaggca  1740
377 agaatcctgg ctgtggaaag atacctaaag gatcaacagc tcctggggat ttggggttgc  1800
379 tctggaaaac tcatttgcac cactgctgtg ccttggaatg ctagttggag taataaatct  1860
381 ctggaacaga tttggaataa catgacctgg atggagtggg acagagaaat taacaattac  1920
383 acaagcttaa tacactcctt aattgaagaa tcgcaaaacc agcaagaaaa gaatgaacaa  1980
385 gaattattgg aattagataa atgggcaagt ttgtggaatt ggtttaacat aacaaattgg  2040
387 ctgtggtata taaaattatt cataatgata gtaggaggct tggtaggttt aagaatagtt  2100
389 tttgctgtac tttctgtagt gaatagagtt aggcagggat attcaccatt atcgtttcag  2160
391 acccacctcc caatcccgag gggacccgac aggcccgaag gaatagaaga agaaggtgga  2220
393 gagagagaca gagacagatc cattcgatta gtgaacggat ccttagcact tatctggtaa  2280
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397 <211> LENGTH: 1496
398 <212> TYPE: DNA
399 <213> ORGANISM: Artificial sequence
401 <220> FEATURE:
402 <223> OTHER INFORMATION: Full length Gag
404 <400> SEQUENCE: 17
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407 gatgggaaaa aattcggtta aggccagggg gaaagaaaaa atataaatta aaacatatag   120
409 tatgggcaag cagggagcta gaacgactac aaccatccct tcagacagga tcagaagaac   180
411 ttagatcatt atataataca gtagcaaccc tctattgtgt gcatcaaagg atagagataa   240
413 aagacaccaa ggaagcttta gacaagatag aggaagagca aaacaaaagt aagaaaaaag   300
415 cacagcaagc agcagctgac acaggacaca gcagtcaggt cagccaaaat taccctatag   360
417 tgcagaacat ccagggcaa atggtacatc aggccatatc acctagaact ttaaatgcat   420
419 gggtaaaagt agtagaagag aaggctttca gcccagaagt aatacccatg ttttcagcat   480
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L:9 M:270 C: Current Application Number differs, Replaced Current Application No
L:9 M:271 C: Current Filing Date differs, Replaced Current Filing Date